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SIMULATION OF TIME SEQUENCES OF WAVE HEIGHT, PERIOD, AND DIRECTION

by

Leon E. Borgman

University of Wyoming
Laramie, Wyoming 32070

and

Norman W. Scheffner

Coastal Engineering Research Center

DEPARTMENT OF THE ARMY
Waterways Experiment Station, Corps of Engineers
3909 Halls Ferry Road, Vicksburg, Mississippi 39180-6199



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13. ABSTRACT (Maximum 200 words) This report describes a procedure for generating simulated time sequences of wave height, period, and direction data corresponding to specific locations. The technique uses a finite length wave record to compute a matrix of coefficient multipliers that can be used to generate arbitrarily long time sequences of simulated wave data which preserve the primary statistical properties of the finite data set. The procedure was developed for simulating the 20-year Wave Information Study (WIS) hindcast database; however, it can be applied to any appropriate data sequence. Application of the methodology is demonstrated in this report through comparisons of simulated data to hindcast data corresponding to a Gulf of Mexico WIS station located offshore of the entrance to Mobile Bay, Alabama. Results show that the simulated series exhibits the primary statistical properties of the WIS data, including seasonality and wave sequencing.				
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**University of Wyoming
Laramie, WY 32070**

**USAE Waterways Experiment Station
Coastal Engineering Research Center
3909 Halls Ferry Road
Vicksburg, MS 39180-6199**